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Korean Research Plan for Chum Salmon in 2006

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Korean Research Plan for Chum Salmon in 2006

Salmon enhancement program in Korea started in 1967 and the program has been more activated since Salmon Research Center of Korea was established at Yangyang in 1984. The major activities of the Salmon Research Center were the release of chum salmon fingerlings and the catch of adult chum salmon for the artificial fertilization. However the return rates of chum salmon to the Korean waters have seriously reduced since 2000. To overcome the low return rate and enhance the chum salmon resources in the Korean Waters, 10-year-science plan were made in 2004.

1. To reveal the mechanisms of mass mortality of chum salmon during their early life in rivers and coastal areas in relation to low return rates, we will carry out the researches as follows;

(1) Prey and predation of juvenile salmon in the rivers and coastal areas
(2) Estimate survival rate after releasing in the rivers and coastal areas
(3) Monitoring of environmental factors in the river and coastal areas
(4) Examine of growth rate during the early life history using otolith and compare the growth rate between released juvenile salmon and wild juvenile salmon
(5) Investigate the optimal releasing period for juvenile salmon

2. Climate change could affect the distribution, migration route, and biological characteristics of salmon in Korean waters while they return to natal rivers for spawning.

(1) The variations of environmental conditions will be examined in the Korean waters and the western Pacific Ocean.
(2) The biological characteristics of chum salmon returned to the Korean waters will be monitored to investigate the long-term changes in terms of climate change.

3. Otolith thermal marking on Korea chum salmon will be executed as a preliminary research to provide information about growth, survival during the early ocean life stage, and hatchery origins from 2006 release (2005 brood).

4. For the stock identification, we will study on the parasitic fauna for the returned chum salmon to Namdae-cheon and determine the species for biological tags and the genetic variations and relationship between Korean and other countries chum salmon through mitochondrial DNA control region sequence analysis and microsatellite DNA analysis

5. The natural stocks of masu salmon (cherry salmon) were a quite abundant in Korea even though the stock is hardly found in the streams of Korea. As a preliminary research for masu salmon releasing, we will examine the prey items of masu salmon and the competitions for preys with other fish species in the coastal area and ocean as well as monitoring the environmental characteristics.

6. International cooperative research in the North Pacific Ocean including the Bering Sea in terms of BASIS